REMARKS

This responds to the Office Action mailed on <u>October 1, 2007</u>.

Claim 34 is amended, claims 7 and 33 are canceled, and no claims are added; as a result, claims 1-4, 6, 10-16, 18, 20-21, 30-32, and 34-38 are now pending in this application.

Claim Objections

Claims <u>1-4, 6, 7, 10-16, 18, 20, 21 and 30-38</u> were objected to because various claims allegedly refer to elements that do not have antecedent basis in the claims.

This claim objection is traversed. The Applicants submit that the Examiner is miscontruing the requirement for antecedent basis within a claim. A text search was performed of the entire Manual of Patent Examining Procedure (MPEP), Revision 6 (September 2007), including the patent rules in Appendix R, for the phrase "antecedent basis." Most references to this phrase in the MPEP relate to antecedent basis within the "description" for terms used in the claims. One reference in the MPEP (see MPEP 706.03(d), form paragraph 7.34.05) relates to antecedent basis within a claim. In the "Examiner note" for form paragraph 7.34.05 (see note 1), it makes clear that the antecedent basis problem within a claim relates to the lack of antecedent basis in the claim for terms that use the definite articles "said" and "the." No other rule or MPEP section was found that deals with antecedent basis within a claim. In the claims of the present application, the recitation of "Appendix A" does not use a definite article to describe the Appendix.

In the claim objection, the Examiner refers to 37 CFR 1.75 to support his assertion that there is no antecedent basis for the phrase "Appendix A" within the claim itself. The Examiner takes the position that 37 CFR 1.75 states that "a claim may not contain any other parts of the application or other material." The Applicants respectfully disagree. In 37 CFR 1.75(h), it states that, "The claim or claims must commence on a <u>separate physical sheet</u> or electronic page. Any <u>sheet</u> including <u>a claim or portion of a claim</u> may not contain <u>any other parts of the application or other material.</u>" (Emphasis added) That is, a sheet containing a claim or a portion of a claim may not also contain, for example, the Abstract section of the application, the Background section of the application, etc. This rule is not referring to language within a claim but to other information

that might improperly share a sheet with a claim. As such, the Examiner has incorrectly applied this rule in the present objection.

The Examiner also relies on MPEP 608.01(m) to support the claim objection based on lack of antecedent basis. This section of the MPEP discusses the use of reference characters within the claims. Reference characters are the numerals or other indicia that are used within drawings to refer to specific structures or steps illustrated within the drawings (see, for example, 37 CFR 1.84(p)). Appendix A is an appendix and not a drawing and the phrase "Appendix A" is not a reference character. Therefore, the Examiner has incorrectly applied MPEP 608.01(m) in the present objection and the objection should be withdrawn.

Based on the foregoing, it is submitted that claims 1-4, 6, 10-16, 18, 20, 21 and 30-32 do not refer to elements that lack antecedent basis in the claims. The Examiner has not cited a single rule, law, or case that supports this objection. In contrast, the Applicants have, in the previous response, provided two examples of issued U.S. patents that use the same basic claiming style as the present application to incorporate lengthy material into the claims. It is therefore respectfully requested that the Examiner withdraw the present objection and allow the claims in their present form.

Independent claim 34 has been amended herein to explicitly recite the matrix of Appendix A. Therefore, claims 34-38 should be allowable.

Claims 7 and 33 were objected to under 37 CFR 1.75(c) as being of improper dependent form failing to further limit the subject matter of a previous claim.

Claims 7 and 33 have been canceled herein.

35 USC § 112 Rejection of the Claims

Claims 1-4, 6, 7, 10-16, 18, 20-21, and 30-38 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The present rejection is traversed. The Examiner presents substantially the same arguments to support this rejection that were presented in support of the above-described objection to the same claims. That is, that there is no antecedent basis in the claims to support the language "Appendix A." As decribed above, the arguments provided by the Examiner are

invalid. Furthermore, the language of the claims is clear. For example, claim 1 recites "a computer readable storage medium storing at least a first portion of a parity check matrix, wherein said parity check matrix is substantially as described in Appendix A and said first portion includes at least half of said parity check matrix." Appendix A of the present application describes a specific parity check matrix, in list file form. In accordance with the claim, a portion of this parity check matrix is stored on the computer readable storage medium. In addition, the portion of the parity check matrix that is stored on the computer readable storage medium includes at least half of the parity check matrix described in Appendix A. The form in which the parity check matrix is shown in Appendix A does not matter. The detailed description of the present application describes how a matrix is described in list file form and a person of ordinary skill in the art can easily convert the list file form of Appendix A to the traditional matrix form.

With regard to 35 USC 112, second paragraph, MPEP 2173 states "The primary purpose of this requirement of definiteness of claim language is to ensure that the scope of the claims is clear so the public is informed of the boundaries of what constitutes infringement of the patent." (Emphasis added.) MPEP 2173.01 states that "Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought." (Emphasis added.) As described above, the scope of claims 1-4, 6, 10-16, 18, 20-21, and 30-32 would be clear to a person of ordinary skill in the art. Appendix A describes a specific matrix in a format that a person of ordinary skill in the art would easily comprehend. For example, in claim 1, at least a portion of the matrix of Appendix A is stored on a computer readable storage medium within a wireless apparatus. The portion that is stored is at least half of the matrix. A person of ordinary skill in the art would have no problem determining the scope of this claim language. Thus, the claim is not indefinite.

The Examiner further takes the position that Appendix A does not teach a matrix but a list file form of a matrix and, therefore, it is not clear what the Applicant is trying to claim. This is not true. The list file format is simply one method for describing a matrix. The format is fully described within the specification of the present application in a manner that a person of ordinary skill in the art would easily comprehend.

In addition to the above, the Examiner also states that the "Appendix does not provide any description; hence 'as described in Appendix A' is not clear what is being stored." As described above, the claim clearly describes what is being stored. That is, at least half of the parity check matrix described in Appendix A. In addition, as described above, the list file format is fully described within the specification of the present application in a manner that a person of ordinary skill in the art would easily comprehend.

Based on the foregoing, it is submitted that claims 1-4, 6, 10-16, 18, 20-21, and 30-32 are not indefinite under 35 USC § 112, second paragraph. Reconsideration and allowance of these claims is therefore respectfully requested.

Claim 34 has been amended herein to explicitly recite the matrix of Appendix A. Therefore, claims 34-38 should be allowable.

Claims 7 and 33 have been canceled herein.

35 USC § 103 Rejection of the Claims

Claims 1, 2, 4, 6, 7, 10, 15, 16, 18, 20 and 34-38 were rejected under 35 USC § 103(a) as being unpatentable over *Yang* (Michael Yang, Yan Li and William E. Ryan; Design of Efficiently Encodable Moderate-Length High-Rate Irregular LDPC Codes; Proceedings of the Annual Conference on Communication, Control and Computing, October 2, 2002, pages 1415-1424) in view of *Lu et al.* (Ben Lu, Xiaodong Wang, and Krishna R. Narayanan; LDPC-Based Space-Time Coded OFDM Systems Over Correlated Fading Channels: Performance Analysis and Receiver Design; IEEE TRANSACTIONS ON COMMUNICATIONS, VOL. 50, NO. 1, JANUARY 2002, pages 74-88).

The Applicants traverse this rejection. The Examiner takes the position that no patentable weight can be given to the recitation of "Appendix A" in the independent claims of the present application for substantially the same reasons given to support the objection to these claims described above. As set out in detail above, none of the arguments provided by the Examiner have any validity. As such, the Examiner has not cited a single rule, law, or case to support the position that reference to an Appendix within a claim is indefinite or entitled to no patentable weight. In contrast, the Applicants have, in the previous response, provided two examples of issued U.S. patents that use the same basic claiming style as the present application

to incorporate lengthy material into the claims. It is submitted that all of the present claims are allowable when the subject matter of Appendix A is properly considered and given the appropriate weight. As stated in the previous response, the portion of the parity check matrix described in Appendix A that is stored on the computer readable storage medium is functional descriptive material (see MPEP 2106.01). As described at page 9, line 25 to page 10, line 1 of the specification-as-filed of the present application, the LDPC code associated with the parity check matrix of Appendix A was "designed to provide good performance with variable-length data blocks, while still achieving a manageable implementation complexity. The codeword length has been selected to provide a good tradeoff between performance and complexity for use in wireless (and some wireline) applications." None of the references cited by the Examiner disclose or suggest a storage medium having the claimed parity check matrix or the use thereof.

Based on the foregoing, it is submitted that claims 1, 2, 4, 6, 10, 15, 16, 18, and 20 are not obvious in light of the combination of Yang and Lu et al. Reconsideration and allowance of these claims is therefore respectfully requested.

Claim 34 has been amended herein to explicitly recite the matrix of Appendix A. Therefore, claims 34-38 should be allowable.

Claim 7 has been canceled herein.

Claims 3 and 21 were rejected under 35 USC § 103(a) as being unpatentable over *Yang* and *Lu et al.,* in view of *Goldstein et al.* (US Patent 6862552 B2).

Claims 3 and 21 are dependent claims that depend directly from independent claims 1 and 15, respectively. Consequently, these claims are allowable for at least the same reasons as their corresponding base claims.

Claims 11-13 were rejected under 35 USC § 103(a) as being unpatentable over *Yang* and *Lu et al.* in view of *Dougherty et al.* (US Patent 6831902 B1).

Claims 11-13 are dependent claims that each depend directly from independent claim 1. Consequently, these claims are allowable for at least the same reasons as claim 1.

Claim 14 was rejected under 35 USC § 103(a) as being unpatentable over *Yang* and *Lu et al.* in view of *Bordogna et al.* (US Patent 6683855 B1).

Claim 14 is a dependent claim that each depends directly from independent claim 1. Consequently, this claim is allowable for at least the same reasons as claim 1.

Claims 30-33 were rejected under 35 USC § 103(a) as being unpatentable over *Yang* and *Lu et al,.* in further view of *Brankovic* (US Patent 6198460 B1).

Independent claim 30 is allowable for at least the same reasons as claim 1 discussed above.

Claims 31-32 are dependent claims that each depend directly from claim 30. Consequently, these claims are allowable for at least the same reasons as independent claim 30. As described in the previous response, these claims also provide further bases for patentability.

Claim 33 has been canceled herein.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (480-948-3745) to facilitate prosecution of this application.

Respectfully submitted,

BO XIA ET AL.

By their Representatives,

CUSTOMER NUMBER: 45643
480-948-3745

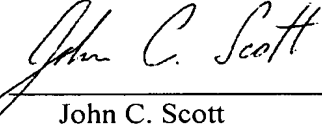Date: January 30, 2008   By
                                                                John C. Scott
                                                                Reg. No. 38,613

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this _30_ day of January, 2008.

Shellie Bailey